

**Quarterly Groundwater Monitoring and
Sampling Report for the
Powerine Refinery**

April 1988

PREPARED FOR

**Powerine Oil Company
P.O. Box 2108
Santa Fe Springs, California 90670**

By

**ERT, Inc.
19782 MacArthur Boulevard, Suite 365
Irvine, California 92715**

ERT

A RESOURCE ENGINEERING COMPANY

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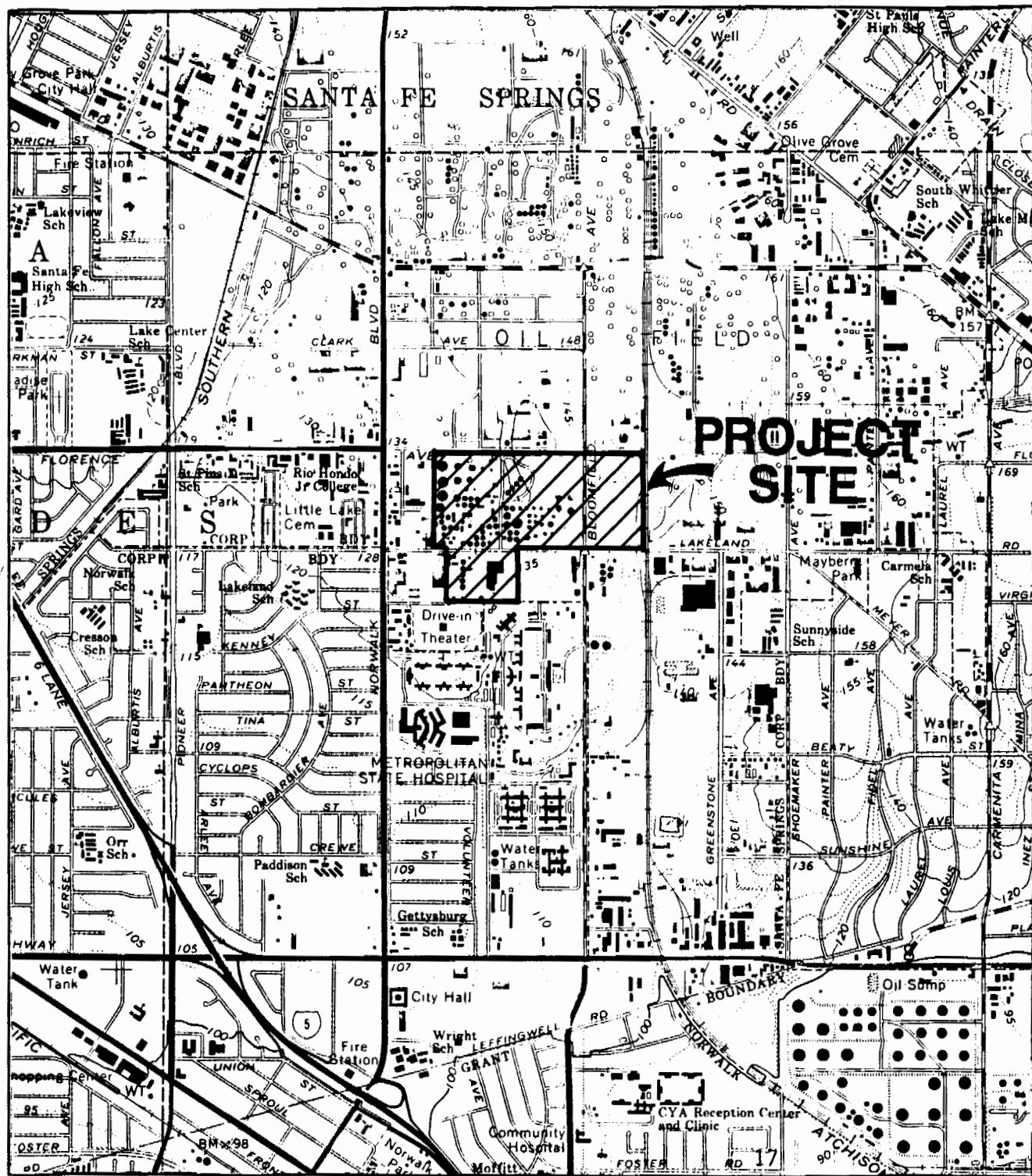
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1.0 INTRODUCTION

ERT, Inc. measured water levels in thirteen (13) monitoring wells on February 29, 1988 and collected water samples from eleven (11) monitoring wells between February 29 and March 3, 1988 at the Powerine Oil Company refinery located at 12354 Lakeland Road, Santa Fe Springs, California (Figures 1 and 2). The samples were analyzed to evaluate the concentrations of purgeable halocarbon and purgeable organic compounds. This work was performed to comply with the requirements of the Regional Water Quality Control Board, Los Angeles Region (RWQCB) for quarterly monitoring, sampling, and analytical testing of perched groundwater beneath the refinery. This report summarizes the field procedures, laboratory analyses, and analytical results for the first quarter of 1988.



BASE MAP FROM U.S.G.S., 7½ MINUTE SERIES (TOPOGRAPHIC), WHITTIER QUADRANGLE

0 2000 4000 FEET

ERT

A RESOURCE ENGINEERING COMPANY

FIGURE 1
PROJECT SITE LOCATION MAP

DRAWN BY:	DATE:	PROJECT NO.:
CHK'D BY: <i>[Signature]</i>	REVISED:	DWG.NO.:

FX-9 Wells

2.0 GROUNDWATER MONITORING AND SAMPLING

2.1 Water-Level Monitoring

Water-level monitoring was performed on February 29, 1988 using a Solinst water level meter in wells containing water only, and a stainless steel tape, water gauging paste, and gasoline gauging paste in a well containing free product (MW-504). Monitoring equipment was decontaminated following each measurement. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing using a non-phosphatic detergent in tap water, a second tap water rinse, and a final rinse using distilled water obtained from a State-certified analytical laboratory.

Groundwater monitoring results are summarized in Table 1 and are illustrated on the groundwater contour map in Figure 3. Groundwater elevations ranged from 37.2 feet above MSL in MW-501 to 54.2 feet above MSL in MW-104. The water table gradient slopes southwesterly across the site.

Monitoring well MW-202 was dry and monitoring well MW-504 contained 1.8 feet of free product on the upper surface of the perched aquifer. Therefore, water samples were not extracted from either of these monitoring wells. The depth to groundwater was not measured in monitoring well MW-102 because the well was reportedly destroyed sometime prior to July, 1987.

TABLE 1
SUMMARY OF MONITORING DATA

MW*		Elevation Top of Casing <u>(feet, MSL)</u>	Depth to Water <u>(feet)</u>	Water Level Elevations <u>(feet, MSL)</u>	Free Product <u>(feet)</u>
No.	Date				
101	02/29/88	134.98	88.67	46.31	ND
102	02/29/88	134.81	a	a	a
103	02/29/88	136.95	93.25	43.70	ND
104	02/29/88	141.60	87.43	54.17	ND
201	02/29/88	132.91	90.00	42.91	ND
202	02/29/88	137.89	b	b	ND
203	02/29/88	143.89	95.62	48.27	ND
204	02/29/88	140.14	94.85	45.29	ND
205	02/29/88	138.17	90.08	48.09	ND
206	02/29/88	129.93	92.38	37.55	ND
501	02/29/88	128.70	91.50	37.20	ND
502	02/29/88	131.19	93.87	37.32	ND
503	02/29/88	131.43	92.35	39.08	ND
504	02/29/88	133.83	92.58	41.25 (42.62) ^c	1.83 (1.90) ^d

KEY

ND = Not Detected

a = Destroyed

b = Dry Well

c = Corrected water level elevation ((Water Level
(corrected) = Water Level (monitored) + (0.75) (Product
Thickness))

d = Thickness of free product, previous quarter

* = Monitoring Well

FX-9 Wells

2.2 GROUNDWATER SAMPLING

Eleven (11) monitoring wells were sampled between February 29 and March 3, 1988. Sampling began with monitoring well MW-103, which was purged with a hand bailer because the water volume in this well was insufficient to use an electrical submersible pump. The remaining monitoring wells were sampled starting with monitoring well MW-205, which contained water with the lowest reported concentrations of hydrocarbon compounds, and proceeded sequentially to wells with progressively higher reported concentrations. This sampling sequence was followed in order to minimize the potential for cross contamination between wells. The production well (P-6 on Figure 2) was not sampled since its associated holding tank was being repaired during the time of monitoring and sampling.

Before a sample was extracted, each well was purged of approximately four (4) well volumes of water using either a 1/3-horsepower Grundfos submersible pump, or a Teflon hand bailer. Upon removal of four (4) well volumes, the water's pH, temperature, and conductivity were measured and recorded. Purged water was discharged into 55-gallon drums to be later disposed of by refinery personnel.

Water samples were extracted from the monitoring wells using a Teflon bailer. The samples were placed into two (2) 40-milliliter VOA vials. All samples were properly labeled and immediately placed on ice in a portable cooler. In addition, two (2) sample blanks consisting of distilled water obtained from a State-certified laboratory were collected. These samples blanks were extracted from the same Teflon bailer used to sample the monitoring wells. Monitoring well MW-504 contained free product and, therefore, was not sampled.

All equipment used to purge and sample the monitoring wells was decontaminated after each well was sampled. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing in tap water and non-phosphatic detergent, a second tap water rinse, and a final rinse using distilled water.

A summary of the data recorded while sampling the monitoring wells is presented in Table 2. Conductivity values ranged from 1,720 umhos/cm in MW-503 to 4,740 umhos/cm in MW-104 and, in general, demonstrated decreasing values across the site from the northeast to the southwest. The measurements of water pH ranged from 5.8 in MW-101 to 7.3 in MW-204.

TABLE 2
SUMMARY OF GROUNDWATER SAMPLING DATA

<u>MW*</u> <u>No.</u>	<u>Time</u>	<u>Purge Method</u>	<u>Volume Purged (gals.)</u>	<u>Temp. (°C)</u>	<u>pH</u>	<u>Conductivity (cm/umhos)</u>	<u>Water Turb.</u>
101	03/02/88 (11:50)	HB	2	20	5.82	2590	gray, v. cloudy
103	02/29/88 (15:08)	HB	3	22	7.01	3120	gray, cloudy
104	03/02/88 (09:00)	SP	25	22	6.91	4740	clear
201	03/02/88 (14:10)	SP	32	22	6.11	2120	cloudy
202	a	a	a	a	a	a	a
203	03/02/88 (10:30)	SP	30	21	6.50	3010	clear to sl. cloudy
204	03/01/88 (15:45)	SP	28	25	7.26	2140	clear to sl. cloudy
205	03/01/88 (14:20)	SP	25	24	7.26	2100	gray to sl. cloudy
206	03/03/88 (11:30)	SP	28-30	23	6.70	2010	sl. cloudy w/black sediment
501	03/03/88 (10:05)	SP	25	22	6.69	2180	clear
502	03/03/88 (10:45)	SP	35	22	6.59	2510	clear to sl. cloudy

Table 2 (continued)

Summary of Groundwater Sampling Data

<u>MW*</u> <u>No.</u>	<u>Time</u>	<u>Purge Method</u>	<u>Volume Purged (gals.)</u>	<u>Temp. (°C)</u>	<u>pH</u>	<u>Conductivity (cm/umbos)</u>	<u>Water Turb.</u>
503	03/02/88 (15:35)	SP	50	22	6.20	1720	sl. cloudy
504	b	b	b	b	b	b	b

KEY

- * = Monitoring well
- a = Insufficient water in well
- b = Not sampled due to presence of free product in well
- HB = Hand bailer
- SP = Submersible pump
- sl. = Slightly
- v = Very

3.0 LABORATORY ANALYSIS

All samples were submitted to Chemical Research Laboratories, Inc., a California-certified analytical laboratory, for analysis using EPA Test Methods 601 and 624. Standard chain-of-custody procedures and documents were utilized (Appendix A). Test methods were performed following EPA monitored quality assurance/quality control procedures assuring results of laboratory analyses.

3.1 EPA Test Method 601

EPA method 601 is a purge and trap gas chromatographic method applicable to the determination of purgeable halocarbons from water samples as prescribed by 40 CFR 136.1. An inert gas is bubbled through a 5-ml water sample contained in a specifically-designed purging chamber and maintained at ambient temperature from the aqueous phase to the water vapor phase. The vapor is swept through a sorbent trap where the halocarbons are trapped. After purging is completed, the trap is heated and backflushed with the inert gas to desorb the halocarbons which are then detected with a halide specific detector. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination. Standard operating procedures require that compound identification should be supported by at least one additional qualitative technique, such as EPA method 624.

3.2 EPA Test Method 624

EPA method 624 is a purge and trap gas chromatographic/mass spectrometer (GC/MS) method applicable to the determination of purgeable organics from water samples, and is also prescribed by 40 CRF 136.1. An inert gas is bubbled through a 5-ml sample contained in a specifically designed purging chamber at ambient temperature. The purgeables are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and backflushed with the inert gas to desorb the purgeables into a gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected with a mass spectrometer. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination.

4.0 ANALYTICAL RESULTS

All analytical results are presented on the Laboratory Reports in Appendix B. Results of analyses for benzene, toluene, ethylbenzene, and total xylenes (BTEX) performed for this and the previous six quarterly reports are summarized on Table 3. Results of analyses for purgeable halocarbons are summarized on Table 4. In water samples extracted from the eleven (11) monitoring wells, benzene concentrations ranged from non-detectable (less than 5 ug/L) to 6,400 ug/L, toluene concentrations ranged from non-detectable (less than 5 ug/L) to 9,100 ug/L, ethylbenzene concentrations ranged from non-detectable (less than 5 ug/L) to 11,000 ug/L, and concentrations of total xylenes ranged from non-detectable (less than 5 ug/L) to 8,200 ug/L. BTEX concentrations did not exceed the detection limits (5 ug/L) in sample blank MW-001; however, low concentrations of benzene (5 ug/L), toluene (6 ug/L), and total xylenes (5 ug/L) were detected in sample blank MW-002.

Concentrations of volatile organic compounds were highest in water samples collected from monitoring wells MW-201, MW-206, MW-501, MW-502, and MW-503. Benzene concentrations in these samples were 5,600 ug/L, 6,400 ug/L, 4,900 ug/L, 3,600 ug/L, and 2,700 ug/L, respectively. Toluene concentrations of the samples collected in MW-201, MW-206, MW-501, MW-502, and MW-503 ranged from 440 to 9,100 ug/L; ethylbenzene concentrations ranged from 120 to 11,000 ug/L; and total xylene concentrations ranged from 1,400 to 8,200 ug/L.

TABLE 3
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in ug/L)

<u>MW No.</u>	<u>Date</u>	<u>Benzene</u>	<u>Ethyl Benzene</u>	<u>Toluene</u>	<u>Total Xylene</u>
101	Mar. 88	340	ND<100	ND<100	ND<100
	Dec. 87	140	ND<5	ND<5	ND<5
	Sept. 87	340	37	ND<30	ND<30
	June. 87	43	1.6	0.5	2.6
	Jan/Feb 87	39	2.5	TR<1	TR<1
	Nov. 86	62	3.3	1.4	1.5
	Jul. 86	58	TR<5	ND<1	ND<1
103	March. 88	ND<5	ND<5	ND<5	ND<5
	Dec. 87	12	ND<5	ND<5	ND<5
	Sept. 87	120	ND<5	ND<5	ND<5
	June 87	69	1.3	1.1	3.5
	Jan/Feb 87	180	1.0	1.0	3.9
	Nov. 86	78	ND<1	2.2	5.7
	Jul. 86	TR4	ND<1	ND<1	ND<1
104	Mar. 88	110	23	68	17
	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5
	June 87	0.6	ND<0.5	0.5	1.5
	Jan/Feb. 87	ND<1	ND<1	ND<1	ND<1
	Nov. 86	ND<1	ND<1	ND<1	ND<1
	Jul. 86	ND<1	ND<1	ND<1	ND<1

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

<u>MW No.</u>	<u>Date</u>	<u>Benzene</u>	<u>Ethyl Benzene</u>	<u>Toluene</u>	<u>Total Xylene</u>
201	Mar. 88	5600	260	880	1400
	Dec. 87	290	ND<5	6	142
	Sept. 87	120	9	12	12
	June 87	290	23	12	39
	Jan/Feb 87	70	5.0	4.0	15
	Nov. 86	68	10	10	32
	July 86	ND<1	ND<1	ND<1	ND<1
203	Mar. 88	103	ND<5	ND<5	ND<5
	Dec. 87	120	ND<5	ND<1	ND<1
	Sept. 87	92	ND<5	ND<5	ND<5
	June 87	1.0	1.6	0.7	2.9
	Jan/Feb 87	78	TR<1	1.0	3.4
	Nov. 86	88	TR<1	1.4	1.9
	July 86	50	ND<1	TR6	18
204	Mar. 88	120	ND<20	ND<20	ND<20
	Dec. 87	9	ND<5	ND<5	ND<5
	Sept. 87	18	ND<5	ND<5	ND<5
	June 87	45	2.8	0.7	3.4
	Jan/Feb 87	9.2	2.6	TR<1	2.3
	Nov. 86	260	15	6.7	41
	July 86	TR9	ND<1	ND<1	ND<1

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

<u>MW No.</u>	<u>Date</u>	<u>Benzene</u>	<u>Ethyl Benzene</u>	<u>Toluene</u>	<u>Total Xylene</u>
205	Mar. 88	74	ND<5	ND<5	8
	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5
	June 87	3.6	0.5	0.6	1.5
	Jan/Feb 87	4.3	TR<1	ND<1	1.2
	Nov. 86	7.5	ND<1	ND<1	1.5
	July 86	13	ND<1	ND<1	ND<1
206	Mar. 88	6400	3400	3900	7300
	Dec. 87	7400	900	2300	5000
	Sept. 87	4100	1300	930	4000
	June 87	3700	1300	1300	3200
	Jan/Feb 87	4500	1100	1800	3600
	Nov. 86	6800	1800	2700	7100
	July 86	3800	TR82	1800	9000
501	Mar. 88	4900	11000	9100	8200
	Dec. 87	8300	400	2000	1100
	Sept. 87	1400	170	ND<50	ND<50
	June 87	2200	210	40	78
	Jan/Feb 87	1500	160	TR<50	74
	Nov. 86	1500	210	67	140
	July 86	1400	290	51	470

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

<u>MW No.</u>	<u>Date</u>	<u>Benzene</u>	<u>Ethyl Benzene</u>	<u>Toluene</u>	<u>Total Xylene</u>
502	Mar. 88	3600	120	400	2700
	Dec. 87	13000	900	1200	4800
	Sept. 87	8400	1300	1700	5500
	June 87	13000	1400	2100	5600
	Jan/Feb 87	6300	960	1700	5200
	Nov. 86	6200	1500	4100	8500
	July 86	10000	1200	4100	6900
503	Mar. 88	2700	1300	1300	2400
	Dec. 87	220	ND<10	44	660
	Sept. 87	53	280	76	390
	June 87	620	330	360	510
	Jan/Feb 87	TR<25	440	956	90
	Nov. 86	95	940	290	1600
	July 86	140	ND<1	ND<1	740
P-6	Mar. 88	- Not operational			
	Sept 87	ND<5	ND<5	ND<5	ND<5

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	<u>Benzene</u>	<u>Ethyl Benzene</u>	<u>Toluene</u>	Total <u>Xylene</u>
001*	Mar. 88	ND<5	ND<5	ND<5	ND<5
002*	Mar. 88	5	ND<5	6	5

KEY

MW = Monitoring Well

ND = This compound was not detected; the limit of detection
for this analysis is the amount stated in the table
above.

* = Sample Blank

Data from July 1986 to September 1987 from IT
Corporation Report (October, 1987).

TABLE 4
SUMMARY OF ANALYTICAL TEST RESULTS -
PURGEABLE HALOCARBON COMPOUNDS

<u>Monitoring Well Number</u>	<u>Compounds Detected</u>	<u>Concentration (ug/L)</u>
101	None Detected	
103	1,2-Dichloroethane Trichloroethene	2 2
104	None Detected	
201	None Detected	
203	None Detected	
204	1,2-Dichloroethane	14
205	None Detected	
206*	None Detected	
501*	None Detected	
502**	None Detected	
503**	None Detected	
001***	None Detected	
002***	None Detected	

KEY

- * A higher detection limit(100 ug/L) was used due to the "foaming" condition of the sample.
- ** A higher detection limit (10 or 20 ug/L) was used due to matrix interference.
- *** Sample Blank

The concentrations of other volatile organic compounds detected in water samples analyzed this quarter were relatively low with the exception of the acetone concentrations detected in samples from six (6) monitoring wells (Table 5). Acetone concentrations decreased in monitoring wells MW-205 and MW-502 from 240 ug/L and 1,700 ug/L last quarter (December 1987) to 190 ug/L and non-detectable (1,000 ug/L detection limit), respectively. Acetone concentrations in MW-103, MW-104, MW-203, MW-204 and MW-503 this quarter ranged from 33 ug/L to 1,900 ug/L, where previously these wells had non-detectable levels (<20 ug/L.). The production well P-6 was not available for sampling; therefore, any changes in acetone concentrations from last quarter (45 ug/L) to this quarter could not be evaluated. A potential source for acetone in the groundwater beneath the site cannot be proposed. However, the source is apparently not onsite since there is currently no use of acetone at the refinery.

TABLE 5
SUMMARY OF ACETONE CONCENTRATIONS

<u>Monitoring Well Number</u>	<u>Acetone Concentration March 1988 (ug/L)</u>	<u>Acetone Concentration December 1987 (ug/L)</u>
103	50	ND
104	33	ND
203	71	ND
204	400	ND
205	190	240
502	ND	1,700
503	503	ND
P-6	NA	45

KEY

NA = Not Analyzed (Well could not be sampled.)

ND = Not Detected

5.0 CONCLUSIONS

The monitoring and analytical results derived in the first quarter, of 1988 demonstrate several deviations from previous quarters (Tables 3 to 5). Analysis of the most recent results compared with the results from the previous quarter (December 1987) indicate the following:

- The benzene concentration was nearly the same in MW-103, and MW-203; decreased in MW-206, MW-501, and MW-502; and increased in MW-101, MW-104, MW-201, MW-204, MW-205 and MW-503.
- The toluene concentration was nearly the same in MW-101, MW-103, MW-203, MW-204, and MW-205; decreased in MW-502; and increased in MW-104, MW-201, MW-206, MW-501, and MW-503.
- The ethylbenzene concentration was nearly the same in MW-101, MW-103, MW-104, MW-204, and MW-205; decreased in MW-502; and increased in MW-201, MW-206, MW-501, and NW-503.
- The xylene concentration was nearly the same in MW-101, MW-103, MW-104, MW-203, MW-204, and MW-205; decreased in MW-502; and increased in MW-201, MW-206, MW-501, and MW-503.
- Acetone concentrations decreased in MW-205 and MW-502, but increased in MW-103, MW-104, MW-203, MW-204, and MW-503.
- The thickness of free product in monitoring well MW-504 decreased from approximately 1.9 feet to 1.8 feet.
- In general, analytical results of water samples from monitoring wells MW-101, MW-103, MW-203, and MW-204 remain consistent with the results from previous quarters.
- Analytical results of water samples from monitoring wells MW-201 and MW-503 exhibited a significant increase in overall BTEX levels.
- Analytical results of water samples from monitoring wells MW-104 and MW-204 exhibited a slight increase in overall BTEX levels.

- o Analytical results of water samples from monitoring wells MW-206 and MW-501 exhibited a significant increase in concentrations of ethylbenzene, toluene, and xylene, but moderate decreases in benzene concentrations.

Respectfully submitted,

ERT, INC.

JR Lander
for Mark R. Wood
Project, Hydrogeologist

D.C.O.
Daniel C. Oliver
Project Manager

James B. Watson
James B. Watson
Manager Environmental Programs

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APPENDIX A
CHAIN-OF-CUSTODY DOCUMENTS

CHAIN OF CUSTODY RECORD

Client/Project Name <i>Quarterly Sampling</i>			Project Location <i>Powerline Refinery</i>			ANALYSES						
Project No. <i>G 830-110</i>			Field Logbook No.									
Sampler: (Signature) <i>Mark Wood</i>			Chain of Custody Tape No. <i>44-601-294-41</i>									
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	REMARKS							
MW 103	2/29/88	16:10		water in VOA	✓	✓						
Relinquished by: (Signature) <i>Mark Wood</i>			Date <i>2/29/88</i>	Time <i>17:47</i>	Received by: (Signature)			Date	Time			
Relinquished by: (Signature)			Date	Time	Received by: (Signature)			Date	Time			
Relinquished by: (Signature)			Date	Time	Received for Laboratory: (Signature) <i>Don Binkley</i>			Date	Time <i>2/29/88 5:47</i>			
Sample Disposal Method:			Disposed of by: (Signature) <i>✓</i>						Date	Time		
SAMPLE COLLECTOR Environmental Research and Technology, Inc. 696 Virginia Road Concord, MA 01742 617-369-8910 714-476-0321			ANALYTICAL LABORATORY Quotation Number <i>E 1026876. MLK</i>						ERT			
									Nº 8283			

CHAIN OF CUSTODY RECORD

Client/Project Name <i>Quarterly Sampling</i>			Project Location <i>Pawerine Refinery</i>		ANALYSES						
Project No. <i>G830-110</i>			Field Logbook No.								
Sampler: (Signature) <i>Mark Wood</i>			Chain of Custody Tape No.								
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	REMARKS						
MW-205		15:30		water in VOA							
MW-204		16:30		" "							
MW-1		17:00		" "							
Relinquished by: (Signature) <i>Mark Wood</i>					Date <i>3/1/88</i>	Time <i>18:02</i>	Received by: (Signature)			Date	Time
Relinquished by: (Signature)					Date	Time	Received by: (Signature)			Date	Time
Relinquished by: (Signature)					Date	Time	Received for Laboratory: (Signature) <i>Don Bentley</i>			Date <i>3/1/88</i>	Time <i>6:00</i>
Sample Disposal Method:					Disposed of by: (Signature)					Date	Time
SAMPLE COLLECTOR Environmental Research and Technology, Inc. 696 Virginia Road Concord, MA 01742 617-369-8910 714-476-0321					ANALYTICAL LABORATORY Quotation Number <i>E 1026876, MLK</i>					ERT <i>Nº 8282</i>	

CHAIN OF CUSTODY RECORD

Client/Project Name <i>ER Quarterly Sampling</i>		Project Location <i>Powerline Refinery</i>		ANALYSES				
Project No. <i>6830-110</i>		Field Logbook No.						
Sampler: (Signature) <i>Mark Wood</i>		Chain of Custody Tape No.						
Sample No./Identification	Date	Time	Lab Sample Number	Type of Sample	REMARKS			
MW-104	3/2/88	10:15		water in VOA	X X			
MW-203		11:30						
MW-101		12:45						
MW-201		15:00						
MW-503	+	16:00						
MW-2	3/2/88	15:15			X X			
Relinquished by: (Signature) <i>Mark Wood</i>				Date 3/2/88	Time 16:50	Received by: (Signature)	Date	Time
Relinquished by: (Signature)				Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)				Date	Time	Received for Laboratory: (Signature)	Date 3/3/88	Time 4:53 PM
Sample Disposal Method:				Disposed of by: (Signature)			Date	Time
SAMPLE COLLECTOR Environmental Research and Technology, Inc. 696 Virginia Road Concord, MA 01742 617-369-8910 714-476-0321				ANALYTICAL LABORATORY <i>Quotation Number</i> <i>E 1020876, MLK</i>			ERT	
							Nº	8281

CHAIN OF CUSTODY RECORD

Client/Project Name <u>QUARTERLY SAMPLING</u>			Project Location <u>POLKINE REFINERY</u>		ANALYSES									
Project No. <u>G 830 - 110</u>		Field Logbook No.												
Sampler: (Signature) <u>Mark Wood</u>			Chain of Custody Tape No.											
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	EPA 60		EPA 624		REMARKS					
MW - 206	3/3/88	9:50		<u>water in VOA</u>	X	X								
MW - 501	1	10:30		1	X	X								
MW - 502	1	11:30		1	X	X								
Relinquished by: (Signature) <u>Mark Wood</u>					Date 3/3/88	Time 1:55	Received by: (Signature)					Date	Time	
Relinquished by: (Signature)					Date	Time	Received by: (Signature)					Date	Time	
Relinquished by: (Signature)					Date	Time	Received for Laboratory: (Signature) <u>Don Birley</u>					Date 3/3/88	Time 1:55	
Sample Disposal Method:					Disposed of by: (Signature)						Date	Time		
SAMPLE COLLECTOR Environmental Research and Technology, Inc. 696 Virginia Road Concord, MA 01742 617-369-8910 714-476-0321					ANALYTICAL LABORATORY Quotation Number: <u>E1026876. MLK</u>						ERT			
											Nº 8279			

APPENDIX B
LABORATORY REPORTS



Chemical Research Laboratories, Inc.

SOUTHERN CALIFORNIA DIVISION

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • FAX: (714) 891-5917 • (800) LAB-1CRL

March 14, 1988

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

ANALYSIS NO.: 806117-001/006
ANALYSES: EPA Method 601,624
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
PROJECT: G 830-110
Powerine Refinery

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 806117-001/006 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND() means not detected at the detection limit expressed within the parentheses.


REVIEWED AND APPROVED



Chemical Research Laboratories, Inc.

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

March 16, 1988

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver

ANALYSIS NO.: 806025-001
ANALYSES: EPA Method 624,601
DATE SAMPLED: 02/29/88
DATE SAMPLE REC'D: 02/29/88
PROJECT: G 830-110 Powerine Refinery
Quarterly Sampling

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 806025-001 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

On March 15, 1988 at 9:00 a.m. verbals were attempted.

Please note that ND() means not detected at the detection limit expressed within the parentheses.

REVIEWED AND APPROVED



Chemical Research Laboratories, Inc.

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

March 18, 1988

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver

ANALYSIS NO.: 806212-001/006
ANALYSES: EPA Method 601, 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
PROJECT: Powerine Refinery

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 806212-001/006 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND() means not detected at the detection limit expressed within the parentheses.

REVIEWED AND APPROVED



Chemical Research Laboratories, Inc.

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

March 18, 1988

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver

ANALYSIS NO.: 806308-001/006
ANALYSES: EPA Method 601, 624
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 806308-001/006 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Verbals were given March 17, 1988 at 3:00 p.m. to Mark.

Please note that ND() means not detected at the detection limit expressed within the parentheses.


REVIEWED AND APPROVED



Chemical Research Laboratories, Inc.

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(714) 898-6370 • (213) 598-0458

LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-101

ANALYSIS NO.: 806212-003
ANALYSES: EPA Method 601
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/07/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

Note: Higher detection limit is due to matrix interference.



Chemical Research Laboratories, Inc.

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-101

ANALYSIS NO.: 806212-003
ANALYSES: EPA Method 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/09/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(200.)	1,2-Dichloropropane	ND(100.)
Bromomethane	ND(200.)	Trans-1,3-Dichloropropene	ND(100.)
Vinyl Chloride	ND(200.)	Trichloroethene	ND(100.)
Chloroethane	ND(200.)	Dibromochloromethane	ND(100.)
Methylene Chloride	ND(100.)	1,1,2-Trichloroethane	ND(100.)
Acetone	ND(200.)	Benzene	340.
Carbon Disulfide	ND(100.)	cis-1,3-Dichloropropene	ND(100.)
1,1-Dichloroethene	ND(100.)	2-Chloroethylvinyl ether	ND(200.)
1,1-Dichloroethane	ND(100.)	Bromoform	ND(100.)
Trans-1,2-Dichloroethene	ND(100.)	4-Methyl-2-Pentanone	ND(200.)
Chloroform	ND(100.)	2-Hexanone	ND(200.)
1,2-Dichloroethane	ND(100.)	Tetrachloroethane	ND(100.)
2-Butanone	ND(200.)	1,1,2,2-Tetrachloroethane	ND(100.)
1,1,1-Trichloroethane	ND(100.)	Toluene	ND(100.)
Carbon Tetrachloride	ND(100.)	Chlorobenzene	ND(100.)
Vinyl Acetate	ND(200.)	Ethylbenzene	ND(100.)
Bromodichloromethane	ND(100.)	Styrene	ND(100.)
		Total Xylenes	ND(100.)



Chemical Research Laboratories, Inc.

7440 Lincoln Way • Garden Grove, CA 92841
(714) 898-6370 • (213) 598-0458

LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
SAMPLE ID: MW 103

ANALYSIS NO.: 806025-001
ANALYSES: EPA Method 601
DATE SAMPLED: 02/29/88
DATE SAMPLE REC'D: 02/29/88
DATE ANALYZED: 03/05/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 601/8010 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	2.
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	2.	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



Chemical Research Laboratories, Inc.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
SAMPLE ID: MW 103

ANALYSIS NO.: 806025-001
ANALYSES: EPA Method 624
DATE SAMPLED: 02/29/88
DATE SAMPLE REC'D: 02/29/88
DATE ANALYZED: 03/10/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>	<u>(ug/L)</u>	
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	50.	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	5.	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-104

ANALYSIS NO.: 806212-001
ANALYSES: EPA Method 601
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/07/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>	<u>(ug/L)</u>	
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-104

ANALYSIS NO.: 806212-001
ANALYSES: EPA Method 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/08/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	33.	Benzene	110.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethane	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	68.
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	23.
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	17.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-201

ANALYSIS NO.: 806212-004
ANALYSES: EPA Method 601
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/07/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

Note: Higher detection limit is due to matrix interference.



Chemical Research Laboratories, Inc.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-201

ANALYSIS NO.: 806212-004
ANALYSES: EPA Method 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/09/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(200.)	1,2-Dichloropropane	ND(100.)
Bromomethane	ND(200.)	Trans-1,3-Dichloropropene	ND(100.)
Vinyl Chloride	ND(200.)	Trichloroethene	ND(100.)
Chloroethane	ND(200.)	Dibromochloromethane	ND(100.)
Methylene Chloride	ND(100.)	1,1,2-Trichloroethane	ND(100.)
Acetone	ND(200.)	Benzene	5,600.
Carbon Disulfide	ND(100.)	cis-1,3-Dichloropropene	ND(100.)
1,1-Dichloroethene	ND(100.)	2-Chloroethylvinyl ether	ND(200.)
1,1-Dichloroethane	ND(100.)	Bromoform	ND(100.)
Trans-1,2-Dichloroethene	ND(100.)	4-Methyl-2-Pentanone	ND(200.)
Chloroform	ND(100.)	2-Hexanone	ND(200.)
1,2-Dichloroethane	ND(100.)	Tetrachloroethane	ND(100.)
2-Butanone	ND(200.)	1,1,2,2-Tetrachloroethane	ND(100.)
1,1,1-Trichloroethane	ND(100.)	Toluene	880.
Carbon Tetrachloride	ND(100.)	Chlorobenzene	ND(100.)
Vinyl Acetate	ND(200.)	Ethylbenzene	260.
Bromodichloromethane	ND(100.)	Styrene	ND(100.)
		Total Xylenes	1,400.



Chemical Research Laboratories, Inc.

7440 Lincoln Way • Garden Grove, CA 92641
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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-203

ANALYSIS NO.: 806212-002
ANALYSES: EPA Method 601
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/07/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



Chemical Research Laboratories, Inc.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-203

ANALYSIS NO.: 806212-002
ANALYSES: EPA Method 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/08/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	71.	Benzene	103.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	5.	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethane	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver
SAMPLE ID: MW-204

ANALYSIS NO.: 806117-003
ANALYSES: EPA Method 601
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
DATE ANALYZED: 03/05/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS

	<u>(ug/L)</u>	<u>(ug/L)</u>	
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	14.	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver
SAMPLE ID: MW-204

ANALYSIS NO.: 806117-004
ANALYSES: EPA Method 624
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
DATE ANALYZED: 03/08/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/kg)</u>		<u>(ug/kg)</u>
Chloromethane	ND(50.)	1,2-Dichloropropane	ND(20.)
Bromomethane	ND(50.)	Trans-1,3-Dichloropropene	ND(20.)
Vinyl Chloride	ND(50.)	Trichloroethene	ND(20.)
Chloroethane	ND(50.)	Dibromochloromethane	ND(20.)
Methylene Chloride	ND(20.)	1,1,2-Trichloroethane	ND(20.)
Acetone	400.	Benzene	120.
Carbon Disulfide	ND(20.)	cis-1,3-Dichloropropene	ND(20.)
1,1-Dichloroethene	ND(20.)	2-Chloroethylvinyl ether	ND(50.)
1,1-Dichloroethane	ND(20.)	Bromoform	ND(20.)
Trans-1,2-Dichloroethene	ND(20.)	4-Methyl-2-Pentanone	ND(50.)
Chloroform	ND(20.)	2-Hexanone	ND(50.)
1,2-Dichloroethane	ND(20.)	Tetrachloroethene	ND(20.)
2-Butanone	ND(50.)	1,1,2,2-Tetrachloroethane	ND(20.)
1,1,1-Trichloroethane	ND(20.)	Toluene	ND(20.)
Carbon Tetrachloride	ND(20.)	Chlorobenzene	ND(20.)
Vinyl Acetate	ND(50.)	Ethylbenzene	ND(20.)
Bromodichloromethane	ND(20.)	Styrene	ND(20.)
		Total Xylenes	ND(20.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver
SAMPLE ID: MW-205

ANALYSIS NO.: 806117-001
ANALYSES: EPA Method 601
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
DATE ANALYZED: 03/05/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver
SAMPLE ID: MW-205

ANALYSIS NO.: 806117-002
ANALYSES: EPA Method 624
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
DATE ANALYZED: 03/08/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	190.	Benzene	74.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	8.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-206

ANALYSIS NO.: 806308-001
ANALYSES: EPA Method 601
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
DATE ANALYZED: 03/11/88
SAMPLE TYPE: Liquid
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(100.)*	1,2-Dichloropropane	ND(100.)
Bromomethane	ND(100.)	Trans-1,3-Dichloropropene	ND(100.)
Vinyl Chloride	ND(100.)	Trichloroethene	ND(100.)
Chloroethane	ND(100.)	Dibromochloromethane	ND(100.)
Methylene Chloride	ND(100.)	1,1,2-Trichloroethane	ND(100.)
1,1-Dichloroethene	ND(100.)	Cis-1,3-Dichloropropene	ND(100.)
1,1-Dichloroethane	ND(100.)	2-Chloroethylvinylether	ND(100.)
Trans-1,2-Dichloroethene	ND(100.)	Bromoform	ND(100.)
Chloroform	ND(100.)	Tetrachloroethene	ND(100.)
1,2-Dichloroethane	ND(100.)	1,1,2,2-Tetrachloroethane	ND(100.)
1,1,1-Trichloroethane	ND(100.)	Chlorobenzene	ND(100.)
Carbon Tetrachloride	ND(100.)	Bromodichloromethane	ND(100.)
1,2-Dichlorobenzene	ND(100.)	1,3-Dichlorobenzene	ND(100.)
Trichlorofluoromethane	ND(100.)	1,4-Dichlorobenzene	ND(100.)

*Higher detection limit is due to foaming sample.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-206

ANALYSIS NO.: 806308-002
ANALYSES: EPA Method 624
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
DATE ANALYZED: 03/09/88
SAMPLE TYPE: Liquid
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(500.)	1,2-Dichloropropane	ND(200.)
Bromomethane	ND(500.)	Trans-1,3-Dichloropropene	ND(200.)
Vinyl Chloride	ND(500.)	Trichloroethene	ND(200.)
Chloroethane	ND(500.)	Dibromochloromethane	ND(200.)
Methylene Chloride	ND(200.)	1,1,2-Trichloroethane	ND(200.)
Acetone	ND(500.)	Benzene	6,400.
Carbon Disulfide	ND(200.)	cis-1,3-Dichloropropene	ND(200.)
1,1-Dichloroethene	ND(200.)	2-Chloroethylvinyl ether	ND(500.)
1,1-Dichloroethane	ND(200.)	Bromoform	ND(200.)
Trans-1,2-Dichloroethene	ND(200.)	4-Methyl-2-Pentanone	ND(200.)
Chloroform	ND(200.)	2-Hexanone	ND(200.)
1,2-Dichloroethane	ND(200.)	Tetrachloroethane	ND(200.)
2-Butanone	ND(500.)	1,1,2,2-Tetrachloroethane	ND(200.)
1,1,1-Trichloroethane	ND(200.)	Toluene	3,900.
Carbon Tetrachloride	ND(200.)	Chlorobenzene	ND(200.)
Vinyl Acetate	ND(500.)	Ethylbenzene	3,400.
Bromodichloromethane	ND(200.)	Styrene	ND(200.)
		Total Xlenes	7,300.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-501

ANALYSIS NO.: 806308-003
ANALYSES: EPA Method 601
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
DATE ANALYZED: 03/11/88
SAMPLE TYPE: Liquid
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	(ug/L)		(ug/L)
Chloromethane	ND(100.)*	1,2-Dichloropropane	ND(100.)
Bromomethane	ND(100.)	Trans-1,3-Dichloropropene	ND(100.)
Vinyl Chloride	ND(100.)	Trichloroethene	ND(100.)
Chloroethane	ND(100.)	Dibromochloromethane	ND(100.)
Methylene Chloride	ND(100.)	1,1,2-Trichloroethane	ND(100.)
1,1-Dichloroethene	ND(100.)	Cis-1,3-Dichloropropene	ND(100.)
1,1-Dichloroethane	ND(100.)	2-Chloroethylvinylether	ND(100.)
Trans-1,2-Dichloroethene	ND(100.)	Bromoform	ND(100.)
Chloroform	ND(100.)	Tetrachloroethene	ND(100.)
1,2-Dichloroethane	ND(100.)	1,1,2,2-Tetrachloroethane	ND(100.)
1,1,1-Trichloroethane	ND(100.)	Chlorobenzene	ND(100.)
Carbon Tetrachloride	ND(100.)	Bromodichloromethane	ND(100.)
1,2-Dichlorobenzene	ND(100.)	1,3-Dichlorobenzene	ND(100.)
Trichlorofluoromethane	ND(100.)	1,4-Dichlorobenzene	ND(100.)

*Higher detection limit is due to foaming sample.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-501

ANALYSIS NO.: 806308-004
ANALYSES: EPA Method 624
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
DATE ANALYZED: 03/10/88
SAMPLE TYPE: Liquid
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1000.)	1,2-Dichloropropane	ND(500.)
Bromomethane	ND(1000.)	Trans-1,3-Dichloropropene	ND(500.)
Vinyl Chloride	ND(1000.)	Trichloroethene	ND(500.)
Chloroethane	ND(1000.)	Dibromochloromethane	ND(500.)
Methylene Chloride	ND(500.)	1,1,2-Trichloroethane	ND(500.)
Acetone	ND(1000.)	Benzene	4,900.
Carbon Disulfide	ND(500.)	cis-1,3-Dichloropropene	ND(500.)
1,1-Dichloroethene	ND(500.)	2-Chloroethylvinyl ether	ND(500.)
1,1-Dichloroethane	ND(500.)	Bromoform	ND(500.)
Trans-1,2-Dichloroethene	ND(500.)	4-Methyl-2-Pentanone	ND(1000.)
Chloroform	ND(500.)	2-Hexanone	ND(1000.)
1,2-Dichloroethane	ND(500.)	Tetrachloroethane	ND(500.)
2-Butanone	ND(1000.)	1,1,2,2-Tetrachloroethane	ND(500.)
1,1,1-Trichloroethane	ND(500.)	Toluene	9,100.
Carbon Tetrachloride	ND(500.)	Chlorobenzene	ND(500.)
Vinyl Acetate	ND(1000.)	Ethylbenzene	11,000.
Bromodichloromethane	ND(500.)	Styrene	ND(500.)
		Total Xylenes	8,200.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-502

ANALYSIS NO.: 806308-005
ANALYSES: EPA Method 601
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
DATE ANALYZED: 03/11/88
SAMPLE TYPE: Liquid
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)*	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

*Higher detection limit is due to matrix interference.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-502

ANALYSIS NO.: 806308-006
ANALYSES: EPA Method 624
DATE SAMPLED: 03/03/88
DATE SAMPLE REC'D: 03/03/88
DATE ANALYZED: 03/11/88
SAMPLE TYPE: Liquid
PROJECT: G830-110 Powerine Refinery
Quarterly Sampling

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(200.)	1,2-Dichloropropane	ND(100.)
Bromomethane	ND(200.)	Trans-1,3-Dichloropropene	ND(100.)
Vinyl Chloride	ND(200.)	Trichloroethene	ND(100.)
Chloroethane	ND(200.)	Dibromochloromethane	ND(100.)
Methylene Chloride	ND(100.)	1,1,2-Trichloroethane	ND(100.)
Acetone	ND(200.)	Benzene	3,600.
Carbon Disulfide	ND(100.)	cis-1,3-Dichloropropene	ND(100.)
1,1-Dichloroethene	ND(100.)	2-Chloroethylvinyl ether	ND(200.)
1,1-Dichloroethane	ND(100.)	Bromoform	ND(100.)
Trans-1,2-Dichloroethene	ND(100.)	4-Methyl-2-Pentanone	ND(200.)
Chloroform	ND(100.)	2-Hexanone	ND(200.)
1,2-Dichloroethane	ND(100.)	Tetrachloroethane	ND(100.)
2-Butanone	ND(200.)	1,1,2,2-Tetrachloroethane	ND(100.)
1,1,1-Trichloroethane	ND(100.)	Toluene	440.
Carbon Tetrachloride	ND(100.)	Chlorobenzene	ND(100.)
Vinyl Acetate	ND(200.)	Ethylbenzene	120.
Bromodichloromethane	ND(100.)	Styrene	ND(100.)
		Total Xylenes	2,700.



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-503

ANALYSIS NO.: 806212-005
ANALYSES: EPA Method 601
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/07/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(20.)	1,2-Dichloropropane	ND(20.)
Bromomethane	ND(20.)	Trans-1,3-Dichloropropene	ND(20.)
Vinyl Chloride	ND(20.)	Trichloroethene	ND(20.)
Chloroethane	ND(20.)	Dibromochloromethane	ND(20.)
Methylene Chloride	ND(20.)	1,1,2-Trichloroethane	ND(20.)
1,1-Dichloroethene	ND(20.)	Cis-1,3-Dichloropropene	ND(20.)
1,1-Dichloroethane	ND(20.)	2-Chloroethylvinylether	ND(20.)
Trans-1,2-Dichloroethene	ND(20.)	Bromoform	ND(20.)
Chloroform	ND(20.)	Tetrachloroethene	ND(20.)
1,2-Dichloroethane	ND(20.)	1,1,2,2-Tetrachloroethane	ND(20.)
1,1,1-Trichloroethane	ND(20.)	Chlorobenzene	ND(20.)
Carbon Tetrachloride	ND(20.)	Bromodichloromethane	ND(20.)
1,2-Dichlorobenzene	ND(20.)	1,3-Dichlorobenzene	ND(20.)
Trichlorofluoromethane	ND(20.)	1,4-Dichlorobenzene	ND(20.)

Note: Higher detection limit is due to matrix interference



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-503

ANALYSIS NO.: 806212-005
ANALYSES: EPA Method 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/09/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(200.)	1,2-Dichloropropane	ND(100.)
Bromomethane	ND(200.)	Trans-1,3-Dichloropropene	ND(100.)
Vinyl Chloride	ND(200.)	Trichloroethene	ND(100.)
Chloroethane	ND(200.)	Dibromochloromethane	ND(100.)
Methylene Chloride	ND(100.)	1,1,2-Trichloroethane	ND(100.)
Acetone	1,900.	Benzene	2,700.
Carbon Disulfide	ND(100.)	cis-1,3-Dichloropropene	ND(100.)
1,1-Dichloroethene	ND(100.)	2-Chloroethylvinyl ether	ND(200.)
1,1-Dichloroethane	ND(100.)	Bromoform	ND(100.)
Trans-1,2-Dichloroethene	ND(100.)	4-Methyl-2-Pentanone	ND(200.)
Chloroform	ND(100.)	2-Hexanone	ND(200.)
1,2-Dichloroethane	ND(100.)	Tetrachloroethane	ND(100.)
2-Butanone	ND(200.)	1,1,2,2-Tetrachloroethane	ND(100.)
1,1,1-Trichloroethane	ND(100.)	Toluene	1,300.
Carbon Tetrachloride	ND(100.)	Chlorobenzene	ND(100.)
Vinyl Acetate	ND(200.)	Ethylbenzene	1,300.
Bromodichloromethane	ND(100.)	Styrene	ND(100.)
		Total Xylenes	2,400.



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SOUTHERN CALIFORNIA DIVISION

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver
SAMPLE ID: MW-1

ANALYSIS NO.: 806117-005
ANALYSES: EPA Method 601
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
DATE ANALYZED: 03/05/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



Chemical Research Laboratories, Inc.

SOUTHERN CALIFORNIA DIVISION

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • FAX: (714) 891-5917 • (800) LAB-1CRL

LABORATORY REPORT

ERT
19782 MacArthur Blvd., # 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver
SAMPLE ID: MW-1

ANALYSIS NO.: 806117-006
ANALYSES: EPA Method 624
DATE SAMPLED: 03/01/88
DATE SAMPLE REC'D: 03/01/88
DATE ANALYZED: 03/08/88
SAMPLE TYPE: Liquid
PROJECT: G 830-110
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-2

ANALYSIS NO.: 806212-006
ANALYSES: EPA Method 601
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/07/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)



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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Daniel C. Oliver
Sample ID: MW-2

ANALYSIS NO.: 806212-006
ANALYSES: EPA Method 624
DATE SAMPLED: 03/02/88
DATE SAMPLE REC'D: 03/02/88
DATE ANALYZED: 03/08/88
SAMPLE TYPE: Liquid
PROJECT: Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	5.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethane	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	6.
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	5.